

## DETAILED ACTION

### *Remarks*

1. This communication is responsive to the amendment filed August 20<sup>th</sup>, 2009. Claims 1, 3-5, 7-9, 13, 15, 20, 22, 23, 25-27, 29-31, 35, 37, 42, and 44-47 are pending. In the amendment filed August 20<sup>th</sup>, 2009, Claims 1, 5, 13, 20, 23, 27, 35, 42, and 45 are amended, Claims 2, 6, 10-12, 14, 16-19, 21, 24, 28, 32-34, 36, 38-41, and 43 are canceled, and Claims 1, 5, 13, 20, 23, 27, 35, 42, and 45 are independent Claims.
2. Claim 47's status identifier is incorrect. The status identifier in the amendment filed August 20<sup>th</sup>, 2009 is "new." However, this claim is not new. Its status identifier should be "previously presented."

### *Response to Arguments*

3. Applicant's arguments filed August 20<sup>th</sup>, 2009 with respect to Claims 1, 3-5, 7-9, 13, 15, 20, 22, 23, 25-27, 29-31, 35, 37, 42, and 44-47 have been considered but are not persuasive.
4. As to the applicant's arguments with respect to exemplary Claim 1 (including Claims 5, 13, 20, 23, 27, 35, 42, and 45) for the prior art(s) allegedly not teaching or suggesting **"wherein said node priority is set such that the priority of nodes closer to a branching point in said tree structured document is higher than that of nodes more remote from said branching point,"** the examiner respectfully disagrees. "Piotrowski, paragraph [0017] with Piotrowski, paragraphs [0008]-[0009], lower priority sub-trees missing" was used to reject this new limitation. In the cited sections,

Piotrowski teaches that an entire XML document can be reconstructed even if lower priority XML portions are missing. Paragraph [0017] defines these portions as being sub-trees in an XML document. The priorities for these sub-trees are established by parameters of an application or user and sent according to priority (most important portions/sub-trees first). The citing that lower priority XML sub-trees are missing (e.g. either because transmission was halted or they have not yet been received) teaches that any sub-tree in the entire document tree can have any priority lower than some other sub-tree with a higher priority. Also, as indicated by the reference, the user may assign any priority to any sub-tree/portion as desired. Making ancestor nodes having a higher or lower priority as desired by the user. As such, Piotrowski teaches "wherein said node priority is set such that the priority of nodes closer to a branching point in said tree structured document is higher than that of nodes more remote from said branching point."

5. The other claims argued merely because of a dependency on a previously argued claim(s) in the arguments presented to the examiner, dated August 20<sup>th</sup>, 2009, are moot in view of the examiner's interpretation of the claims and art and are still considered rejected based on their respective rejections from at least a prior Office action (part(s) of recited again below).

## **Response to Amendment**

### ***Specification***

6. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### ***Drawings***

7. Since the lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors, Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the drawings. For example, the drawings should be carefully checked to ensure that all reference numerals are described in the specification, that no one reference numeral describes two separate drawing elements, or that the specification contains no reference to numerals not in the drawings.

### ***Claim Objections***

8. Claim 23 is objected to because of the following informalities:
- a. Claim 23 recites the limitation "said tree-structured document receiving apparatus" in lines 18-19. There is insufficient antecedent basis for this limitation in the claim. Possibly "said tree-structured document receiving apparatusmethod" was intended.
  - b. Claim 23 recites the limitation "said tree-structured document transmitting apparatus" in line 30. There is insufficient antecedent basis for this limitation in

the claim. Possibly "said tree-structured document transmitting apparatusmethod" was intended.

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claims 1, 3-5, 7-9, 13, 15, 20, 22, 23, 25-27, 29-31, 35, 37, 42, 44 and 47 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. All of the independent claims (except Claim 45) recite "the node priority of the node is equal to or lower than that of a node which is an ancestor of that node" (e.g. Claim 1, lines 11-12) which directly contradicts the newly amended last wherein limitation of "wherein said node priority is set such that the priority of nodes closer to a branching point in said tree structured document is higher than that of nodes more remote from said branching point." As such, independent Claims 1, 5, 13, 20, 23, 27, 35, and 42 are unclear. This rejection propagates downward through dependent Claims 3, 4, 7-9, 15, 22, 25, 26, 29-31, 37, 44 and 47.

***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

13. Claims 1, 3, 4, 23, 25, 26, and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication No. 2003/0236903 (Piotrowski) in view of U.S. Patent No. 5,899,995 (Miller et al.), further in view of U.S. Patent Application Publication No. 2002/0143817 (Dutta et al.).

For **Claim 1**, Piotrowski teaches: "A tree-structured document transmitting and receiving system having a tree-structured document transmitting apparatus and a tree-structured document receiving apparatus, [Piotrowski, Fig. 1 with Piotrowski, paragraph [0022]] said tree-structured document transmitting apparatus having:

- ...of storing a plurality of tree-structured documents; [Piotrowski, paragraphs [0022]-[0023]]

- node priority presentation means of presenting a node priority [Piotrowski, paragraph [0019]] which is set with respect to each of nodes [Piotrowski, paragraph [0017] with Piotrowski, paragraph [0022]] of a tree-structured document on the basis of the importance of an information portion to be presented from the node to a receiving-side user [Piotrowski, paragraph [0015] with Piotrowski, paragraphs [0007]-[0008] with Piotrowski, paragraph [0025]] while satisfying two conditions: a first condition that the node priority of the node is equal to or lower than that of a node which is an ancestor of that node, [Piotrowski, paragraph [0017] with Piotrowski, paragraphs [0008]-[0009], lower priority sub-trees missing] and a second condition that if a plurality of nodes of the same priority exist, the nodes necessarily constitute one subtree; [Piotrowski, paragraph [0017] with Piotrowski, paragraphs [0008]-[0009]]
- node stream generation means [Piotrowski, paragraph [0022]] of reading out a tree-structured document to be transmitted from the tree-structured document storage means and generating a node stream in which nodes or subtrees are arranged in a sequence on the basis of node priorities presented by said node priority presentation means; [Piotrowski, paragraphs [0007]-[0008]] and
- transmitting means of converting said node stream into a signal based on a predetermined network protocol and transmitting the signal, [Piotrowski, paragraph [0015] with Piotrowski, Fig. 1] said tree-structured document receiving apparatus having:

- receiving means of restoring the node stream from the signal received by said predetermined network protocol from said transmitting means; [Piotrowski, paragraph [0015] with Piotrowski, paragraphs [0023]-[0025]]
- extraction means of extracting at least one of the nodes or the subtrees from the node stream restored by said receiving means according to the sequence of arrangement in the node stream; [Piotrowski, paragraph [0015] with Piotrowski, paragraphs [0023]-[0025]]
- reconstruction means of adding at least one of the nodes or the subtrees in the extraction order to the tree-structured document under reconstruction; [Piotrowski, paragraph [0015] with Piotrowski, paragraphs [0023]-[0025]] and
- display means of displaying the tree-structured document in the current reconstructed state; [Piotrowski, paragraph [0025] with Piotrowski, paragraph [0009]]
- wherein said tree-structured document transmitting apparatus further has:
- descendant substitute display information storage means of storing descendant substitute display information for substitute display on said display means of said tree-structured document receiving apparatus for descendant nodes with respect to at least one of a node or a subtree existing as a parent of the descendant node; [Piotrowski, paragraph [0017] with Piotrowski, paragraph [0018]] and
- descendant substitute display information addition means of making the node stream generation means generate as said node stream a stream in which the descendant substitute display information read out from said descendant

substitute display information storage means is added immediately after at least one of the node or the subtree existing as a parent of the descendant node, [Piotrowski, paragraph [0017] with Piotrowski, paragraph [0018]] and

- wherein, in said tree-structured document receiving apparatus, said extraction means extracts at least one of the nodes or the subtrees and the descendant substitute display information from the node stream restored by said receiving means according to the sequence of arrangement in the node stream; [Piotrowski, paragraph [0017] with Piotrowski, paragraph [0018] with Piotrowski, paragraph [0015] with Piotrowski, paragraphs [0023]-[0025]] and
- said reconstruction means adds a substitute structure portion relating to the descendant substitute display information to the tree structure under reconstruction in place of the descendant node relating to the descendant substitute display information when said extraction means extracts the descendant substitute display information [Piotrowski, paragraph [0017] with Piotrowski, paragraph [0018] with Piotrowski, paragraph [0009]]
- wherein said display means displays said descendant substitute display information [Piotrowski, paragraph [0018] with Piotrowski, paragraph [0025]]...wherein said node priority is set such that the priority of nodes closer to a branching point in said tree structured document is higher than that of nodes more remote from said branching point" [Piotrowski, paragraph [0017] with Piotrowski, paragraphs [0008]-[0009], lower priority sub-trees missing].  
Piotrowski discloses the above limitations but does not expressly teach:



- "...tree-structured document storage means
- ...wherein said node priority presentation means presents a node priority which is set based on a characteristic of the appearance of said node when displayed."

With respect to Claim 1, an analogous art, Miller, teaches:

- "...tree-structured document storage means" [Miller, col. 6, lines 60-67].

With respect to Claim 1, an analogous art, Dutta, teaches:

- "...wherein said node priority presentation means presents a node priority which is set based on a characteristic of the appearance of said node when displayed" [Dutta, paragraph [0022]].

It would have been obvious to one of ordinary skill in the art at the time of invention to combine Miller and Dutta with Piotrowski because the inventions are directed towards storing files.

Miller and Dutta's inventions would have been expected to successfully work well with Piotrowski's invention because the inventions use storage areas. Piotrowski discloses a method and apparatus for structured streaming of an XML document comprising storage devices, however Piotrowski does not expressly disclose that the storage devices are tree-structured, wherein said node priority is set based on a characteristic of the appearance of said node when displayed, nor where the appearance is underlined. Miller discloses a method and apparatus for automatically organizing information comprising storage areas and a storage manager that files documents into appropriate folders and/or storage areas. Dutta discloses the

presentation of salient features in a page to a visually impaired user (title) comprising showing only part of a document prior to optionally showing the rest.

It would have been obvious to one of ordinary skill in the art at the time of invention to take the folders/files from Miller and the presentation of salient features from Dutta and install them into the invention of Piotrowski, thereby offering the obvious advantage of having an organized way of storing items on the storage device and obtaining an overview of the document (Dutta, paragraph [0022]).

**Claim 3** can be mapped to Piotrowski (as modified by Miller and Dutta) as follows: "The tree-structured document transmitting and receiving system according to claim 1, wherein, in said tree-structured document receiving apparatus, said reconstruction means immediately replaces the substitute tree-structured portion relating to the descendant substitute display information in the tree structure under reconstruction with the descendant node when said extraction means extracts the descendant node while substitute display for the descendant node according to the descendant substitute display information is being performed" [Piotrowski, paragraph [0009] with Piotrowski, paragraph [0025]].

**Claim 4** can be mapped to Piotrowski (as modified by Miller and Dutta) as follows: "The tree-structured document transmitting and receiving system according to claim 1, wherein said tree-structured document transmitting apparatus further has node priority setting means of determining the importance of an information portion to be presented from each node to the receiving-side user on the basis of a content of the node, an attribute of the node, a content of the document, an attribute of the document,

the tree structure, a user instruction from a transmitting-side user, or a user instruction from the receiving-side user, and setting a node priority on the basis of the determination, [Piotrowski paragraph [0019]] and

- wherein, in said tree-structured document transmitting apparatus, said node priority presentation means presents the node priority set by said node priority setting means" [Piotrowski paragraph [0019]].

**Claims 23, 25, and 26** encompass substantially the same scope of the invention as that of Claims 1, 3, and 4, respectfully, in addition to a method and some steps for performing the system means of Claims 1, 3, and 4, respectfully. Therefore, Claims 23, 25, and 26 are rejected for the same reasons as stated above with respect to Claims 1, 3, and 4, respectfully.

**Claim 47** can be mapped to Piotrowski (as modified by Miller and Dutta) as follows: "A system according to claim 1 wherein said appearance comprises the presence of a background color, an itemized list, or an underline" [Dutta, paragraph [0022]].

14. Claims 5, 7-9, 27, and 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication No. 2003/0236903 (Piotrowski) in view of U.S. Patent No. 5,899,995 (Miller et al.) in view of U.S. Patent No. 5,790,937 (Gutle), in view of U.S. Patent No. 5,907,841 (Sumita), in view of U.S. Patent Application Publication No. 2002/0143817 (Dutta et al.).

For **Claim 5**, Piotrowski teaches: "A tree-structured document transmitting and receiving system having a tree-structured document transmitting apparatus and a tree-structured document receiving apparatus, [Piotrowski, Fig. 1 with Piotrowski, paragraph [0022]] said tree-structured document transmitting apparatus having:

- ... of storing a plurality of tree-structured documents; [Piotrowski, paragraphs [0022]-[0023]]
- ... document-by-document encoding means [Piotrowski, paragraphs [0015]-[0017]]..., and each having node priority presentation means [Piotrowski, paragraph [0019]] and node stream generation means, [Piotrowski, paragraph [0022]] said node priority presentation means presenting a node priority which is set with respect to each of nodes [Piotrowski, paragraph [0017] with Piotrowski, paragraph [0022]] of said assigned tree-structured document on the basis of the importance of an information portion to be presented from the node to a receiving-side user [Piotrowski, paragraph [0015] with Piotrowski, paragraphs [0007]-[0008] with Piotrowski, paragraph [0025]] while satisfying two conditions: a first condition that the node priority of the node is equal to or lower than that of a node which is an ancestor of that node, [Piotrowski, paragraph [0017] with Piotrowski, paragraphs [0008]-[0009], lower priority sub-trees missing] and a second condition that if a plurality of nodes of the same priority exist, the nodes necessarily constitute one subtree, [Piotrowski, paragraph [0017] with Piotrowski, paragraphs [0008]-[0009]] said node stream generation means reading out a tree-structured document to be transmitted from the tree-structured document

storage means and generating a node stream in which at least one of the nodes or the subtrees are arranged in a sequence on the basis of node priorities presented by said node priority presentation means; [Piotrowski, paragraphs [0007]-[0008]]

- ... stream generation means [Piotrowski, paragraph [0022]] of generating one multiplexed stream by multiplexing the node streams from said document-by-document encoding means, sequences in which at least one of the nodes or the subtrees of the tree-structured documents are arranged being placed in the multiplexed stream according to the inter-document priorities presented by said inter-document priority presentation means with respect to the tree-structured documents containing at least one of the nodes or the subtrees; [Piotrowski, paragraphs [0007]-[0008]] and
- transmitting means of transmitting said multiplexed stream by converting said multiplexed stream on the basis of a predetermined network protocol, [Piotrowski, paragraph [0015] with Piotrowski, Fig. 1] said tree-structured document receiving apparatus having:
- receiving means of restoring the multiplexed stream from the signal received by said predetermined network protocol from said transmitting means; [Piotrowski, paragraph [0015] with Piotrowski, paragraphs [0023]-[0025]]
- ... document-by-document decoding means...[Piotrowski, paragraph [0015] with Piotrowski, paragraphs [0023]-[0025]], and each including extraction means and reconstruction means, said extraction means extracting the nodes subtrees from

said processing-assigned node stream according to the sequence of arrangement in the node stream, said reconstruction means adding at least one of the node or the subtree in the extraction order to the tree-structured document under reconstruction; [Piotrowski, paragraph [0015] with Piotrowski, paragraphs [0023]-[0025]] and

- display means of displaying the tree-structured document under reconstruction in each document-by-document decoding means, the tree structure being displayed in the current reconstructed state at a corresponding position; [Piotrowski, paragraph [0025] with Piotrowski, paragraph [0009]]
- wherein, in said tree-structured document transmitting apparatus, said document-by-document encoding means further includes:
- descendant substitute display information storage means of storing descendant substitute display information for substitute display on said display means of said tree-structured document receiving apparatus for descendant nodes with respect to at least one of a node or a subtree existing as a parent of the descendant node; [Piotrowski, paragraph [0017] with Piotrowski, paragraph [0018]] and
- descendant substitute display information addition means of making the node stream generation means generate as said node stream a stream in which the descendant substitute display information read out from said descendant substitute display information storage means is added immediately after at least one of the node or a subtree existing as a parent of the descendant node, [Piotrowski, paragraph [0017] with Piotrowski, paragraph [0018]] and

- wherein, in each document-by-document decoding means of said tree-structured document receiving apparatus, said extraction means extracts the nodes or subtrees and the descendant substitute display information from the node stream restored by said receiving means according to the sequence of arrangement in the node stream; [Piotrowski, paragraph [0017] with Piotrowski, paragraph [0018] with Piotrowski, paragraph [0015] with Piotrowski, paragraphs [0023]-[0025]] and
- said reconstruction means adds a substitute structure portion relating to the descendant substitute display information to the tree structure under reconstruction in place of the descendant node relating to the descendant substitute display information when said extraction means extracts the descendant substitute display information;" [Piotrowski, paragraph [0017] with Piotrowski, paragraph [0018] with Piotrowski, paragraph [0009]] and
- wherein said display means displays said descendant substitute display information [Piotrowski, paragraph [0018] with Piotrowski, paragraph [0025]]...wherein said node priority is set such that the priority of nodes closer to a branching point in said tree structured document is higher than that of nodes more remote from said branching point" [Piotrowski, paragraph [0017] with Piotrowski, paragraphs [0008]-[0009], lower priority sub-trees missing].  
Piotrowski discloses the above limitations but does not expressly teach:
- "...tree-structured document storage means
- ...a plurality of...each assigned processing of one tree-structured document in a plurality of tree-structured documents to be transmitted

- ...inter-document priority presentation means of presenting inter-document priorities set as transmission priorities with respect to the plurality of tree-structured documents to be transmitted;
- ...multiplexed
- ...demultiplexing means of demultiplexing the multiplexed stream into the plurality of node streams contained in the multiplexed stream;
- a plurality of ...each assigned processing of one node stream in the plurality of node streams demultiplexed by said demultiplexing means
- ... wherein said node priority presentation means presents a node priority which is set based on a characteristic of the appearance of said node when displayed."

With respect to Claim 5, an analogous art, Miller, teaches:

- "...tree-structured document storage means" [Miller, col. 6, lines 60-67].

With respect to Claim 5, an analogous art, Gutle, teaches:

- "...multiplexed [Gutle, col. 2, lines 10-30]
- ...demultiplexing means of demultiplexing the multiplexed stream into the plurality of node streams contained in the multiplexed stream;" [Gutle, col. 2, lines 10-30].

With respect to Claim 5, an analogous art, Sumita, teaches:

- "...inter-document priority presentation means of presenting inter-document priorities set as transmission priorities with respect to the plurality of tree-structured documents to be transmitted" [Sumita, cols. 21-22, lines 65-6 with Piotrowski, paragraph [0019]].



With respect to Claim 5 case law teaches:

- "...a plurality of...each assigned processing of one tree-structured document in a plurality of tree-structured documents to be transmitted [*In re Harza*, 274 F.2d 669, 124 USPQ 378 (CCPA 1960)]
- "...a plurality of ...each assigned processing of one node stream in the plurality of node streams demultiplexed by said demultiplexing means" [*In re Harza*, 274 F.2d 669, 124 USPQ 378 (CCPA 1960)].

With respect to Claim 5, an analogous art, Dutta, teaches:

- "...wherein said node priority presentation means presents a node priority which is set based on a characteristic of the appearance of said node when displayed" [Dutta, paragraph [0022]].

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Miller, Sumita, Gutle, and Dutta with Piotrowski because the inventions are directed towards storing and transmitting files.

Miller, Sumita, Gutle, and Dutta's inventions would have been expected to successfully work well with Piotrowski's invention because the inventions use storage areas and transmit files. Piotrowski discloses a method and apparatus for structured streaming of an XML document comprising storage devices, however Piotrowski does not expressly disclose that the storage devices are tree-structured, presenting inter-document priorities, transferring using multiplexing/demultiplexing, nor wherein said node priority is set based on a characteristic of the appearance of said node when displayed. Miller discloses a method and apparatus for automatically organizing

information comprising storage areas and a storage manager that files documents into appropriate folders and/or storage areas. Sumita discloses a document detection system with improved document detection efficiency comprising displaying documents according to priority. Gutle discloses a method and apparatus for the distribution of multi-media documents comprising multiplexing and demultiplexing a stream of data. Dutta discloses the presentation of salient features in a page to a visually impaired user (title) comprising showing only part of a document prior to optionally showing the rest.

It would have been obvious to one of ordinary skill in the art at the time of invention to take the folders/files from Miller, the multiplexing/demultiplexing from Gutle, the presenting inter-document priorities from Sumita, and the presentation of salient features from Dutta and install them into the invention of Piotrowski, thereby offering the obvious advantage of having an organized way of storing items on the storage device, sending multiple things through a stream of data (increasing the speed), displaying relevant documents first according to their priority, and obtaining an overview of the document (Dutta, paragraph [0022]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Piotrowski such that Piotrowski has a plurality of document-by-document encoding and decoding means each assigned processing of one tree-structured document in a plurality of tree-structured documents to be transmitted since it has been held that a duplication of parts with function (*In re Harza*, 274 F.2d 669, 124 USPQ 378 (CCPA 1960)) is obvious. In this case it is obvious

because it would increase the speed of the Piotrowski so Piotrowski's invention does more than one document at a time.

**Claim 7** can be mapped to Piotrowski (as modified by Miller, Sumita, Gutle, and Dutta) as follows: "The tree-structured document transmitting and receiving system according to claim 5, wherein, in each document-by-document decoding means of said tree-structured document receiving apparatus, said reconstruction means immediately replaces the substitute tree-structured portion relating to the descendant substitute display information in the tree structure under reconstruction with the descendant node when said extraction means extracts the descendant node while substitute display for the descendant node according to the descendant substitute display information is being performed" [Piotrowski, paragraph [0009] with Piotrowski, paragraph [0025]].

**Claim 8** can be mapped to Piotrowski (as modified by Miller, Sumita, Gutle, and Dutta) as follows: "The tree-structured document transmitting and receiving system according to claim 5,

- wherein the multiplexed stream generation means of said tree-structured document transmitting apparatus further has node priority setting means of determining the importance of an information portion to be presented from each node to the receiving-side user on the basis of a content of the node, an attribute of the node, a content of the document, an attribute of the document, the tree structure, or a user instruction, and setting a node priority on the basis of the determination, [Piotrowski paragraph [0019]] and

- wherein, in the multiplexed stream generation means of said tree-structured document transmitting apparatus, said node priority presentation means presents the node priority set by said node priority setting means" [Piotrowski paragraph [0019]].

**Claim 9** can be mapped to Piotrowski (as modified by Miller, Sumita, Gutle, and Dutta) as follows: "The tree-structured document transmitting and receiving system according to claim 5,

- wherein said tree-structured document transmitting apparatus further has inter-document priority setting means of setting inter-document priorities on the basis of the contents of the documents, the attributes of the documents, the degrees of relation with a search word relating to a search request from the receiving-side user, a user instruction from a transmitting-side user, or a user instruction from the receiving-side user, [Sumita, cols. 21-22, lines 65-6 with Piotrowski, paragraph [0019]] and
- wherein, in said tree-structured document transmitting apparatus, said inter-document priority presentation means presents the inter-document priorities set by said inter-document priority setting means" [Sumita, cols. 21-22, lines 65-6 with Piotrowski, paragraph [0019]].

**Claims 27 and 29-31** encompass substantially the same scope of the invention as that of Claims 5 and 7-9, respectfully, in addition to a method and some steps for performing the system means of Claims 5 and 7-9, respectfully. Therefore, Claims 27

and 29-31 are rejected for the same reasons as stated above with respect to Claims 5 and 7-9, respectfully.

15. Claims 13, 15, 35, and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication No. 2003/0236903 (Piotrowski) in view of U.S. Patent Application Publication No. 2002/0143817 (Dutta et al.).

For **Claim 13**, Piotrowski teaches: "A tree-structured document receiving apparatus which receives a signal formed by converting on the basis of a predetermined network protocol a node stream [Piotrowski, paragraph [0022] with Piotrowski, paragraph [0015] with Piotrowski, Fig. 1] formed in such a manner that a node priority is set with respect to each of nodes [Piotrowski, paragraph [0019] with Piotrowski, paragraph [0017] with Piotrowski, paragraph [0022]] of a tree-structured document on the basis of the importance of an information portion to be presented from the node to a receiving-side user [Piotrowski, paragraph [0015] with Piotrowski, paragraphs [0007]-[0008] with Piotrowski, paragraph [0025]] while satisfying two conditions: a first condition that the node priority of the node is equal to or lower than that of a node which is an ancestor of that node, [Piotrowski, paragraph [0017] with Piotrowski, paragraphs [0008]-[0009], lower priority sub-trees missing] and a second condition that if a plurality of nodes of the same priority exist, the nodes necessarily constitute one subtree; [Piotrowski, paragraph [0017] with Piotrowski, paragraphs [0008]-[0009]] and nodes or subtrees are arranged in a sequence on the basis of the node priorities, [Piotrowski, paragraphs [0007]-[0008]] said tree-structured document receiving apparatus having:

- receiving means of restoring the node stream from the signal received by the predetermined network protocol; [Piotrowski, paragraph [0015] with Piotrowski, paragraphs [0023]-[0025]]
- extraction means of extracting at least one of the nodes or the subtrees from the node stream restored by said receiving means according to the sequence of arrangement in the node stream; [Piotrowski, paragraph [0015] with Piotrowski, paragraphs [0023]-[0025]]
- reconstruction means of adding at least one of the nodes or the subtree in the extraction order to the tree-structured document under reconstruction; [Piotrowski, paragraph [0015] with Piotrowski, paragraphs [0023]-[0025]] and
- display means of displaying the tree-structured document in the current reconstructed state; [Piotrowski, paragraph [0025] with Piotrowski, paragraph [0009]]
- wherein, in the node stream restored by said receiving means, descendant substitute display information for substitute display on said display means for descendant nodes with respect to at least one of a node or a subtree existing as a parent of the descendant node is added immediately after at least one of the node or the subtree existing as a parent of the descendant node; [Piotrowski, paragraph [0017] with Piotrowski, paragraph [0018]]
- said extraction means extracts at least one of the nodes or the subtrees and the descendant substitute display information from the node stream restored by said receiving means according to the sequence of arrangement in the node stream;

[Piotrowski, paragraph [0017] with Piotrowski, paragraph [0018] with Piotrowski, paragraph [0015] with Piotrowski, paragraphs [0023]-[0025]] and

- said reconstruction means adds a substitute structure portion relating to the descendant substitute display information to the tree structure under reconstruction in place of the descendant node relating to the descendant substitute display information when said extraction means extracts the descendant substitute display information; [Piotrowski, paragraph [0017] with Piotrowski, paragraph [0018] with Piotrowski, paragraph [0009]] and
- wherein said display means displays said descendant substitute display information [Piotrowski, paragraph [0018] with Piotrowski, paragraph [0025]]...wherein said node priority is set such that the priority of nodes closer to a branching point in said tree structured document is higher than that of nodes more remote from said branching point" [Piotrowski, paragraph [0017] with Piotrowski, paragraphs [0008]-[0009], lower priority sub-trees missing].

Piotrowski discloses the above limitations but does not explicitly teach:

- "...wherein said node priority is set based on a characteristic of the appearance of said node when displayed."

With respect to Claim 13, an analogous art, Dutta, teaches:

- "...wherein said node priority is set based on a characteristic of the appearance of said node when displayed" [Dutta, paragraph [0022]].

It would have been obvious to one of ordinary skill in the art at the time of invention having the teachings of Dutta and Piotrowski before him/her to combine Dutta with Piotrowski because both inventions are directed towards transmitting XML data.

Dutta's invention would have been expected to successfully work well with Piotrowski's invention because both inventions use XML. Piotrowski discloses a method and apparatus for structured streaming of an XML document (title) comprising displaying an XML or parts of an XML document(s). However, Piotrowski does not expressly disclose wherein said node priority is set based on a characteristic of the appearance of said node when displayed. Dutta discloses the presentation of salient features in a page to a visually impaired user (title) comprising showing only part of a document prior to optionally showing the rest.

It would have been obvious to one of ordinary skill in the art at the time of invention having the teachings of Dutta and Piotrowski before him/her to take the presentation of salient features from Dutta and install it into the invention of Piotrowski, thereby offering the obvious advantage of obtaining an overview of the document (Dutta, paragraph [0022]).

**Claim 15** can be mapped to Piotrowski (as modified by Dutta) as follows: "The tree-structured document receiving apparatus according to claim 13, wherein said reconstruction means immediately replaces the substitute tree-structured portion relating to the descendant substitute display information in the tree structure under reconstruction with the descendant node when said extraction means extracts the descendant node while substitute display for the descendant node according to the



descendant substitute display information is being performed" [Piotrowski, paragraph [0009] with Piotrowski, paragraph [0025]].

**Claims 35 and 37** encompass substantially the same scope of the invention as that of Claims 13 and 15, respectfully, in addition to a method and some steps for performing the system means of Claims 13 and 15, respectfully. Therefore, Claims 35 and 37 are rejected for the same reasons as stated above with respect to Claims 13 and 15, respectfully.

16. Claims 20, 22, 42, and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication No. 2003/0236903 (Piotrowski) in view of U.S. Patent No. 5,790,937 (Gutle), in view of U.S. Patent No. 5,907,841 (Sumita) further in view of U.S. Patent Application Publication No. 2002/0143817 (Dutta et al.).

For **Claim 20**, Piotrowski teaches: "A tree-structured document receiving apparatus which receives a signal formed by converting on the basis of a predetermined network protocol [Piotrowski, paragraph [0022] with Piotrowski, paragraph [0015] with Piotrowski, Fig. 1] a ... stream formed in such a manner that a node priority is set with respect to each of nodes [Piotrowski, paragraph [0019] with Piotrowski, paragraph [0017] with Piotrowski, paragraph [0022]] of a tree-structured document on the basis of the importance of an information portion to be presented from the node to a receiving-side user [Piotrowski, paragraph [0015] with Piotrowski, paragraphs [0007]-[0008] with Piotrowski, paragraph [0025]] while satisfying two conditions: a first condition that the

node priority of the node is equal to or lower than that of a node which is an ancestor of that node, [Piotrowski, paragraph [0017] with Piotrowski, paragraphs [0008]-[0009], lower priority sub-trees missing] and a second condition that if a plurality of nodes of the same priority exist, the nodes necessarily constitute one subtree; [Piotrowski, paragraph [0017] with Piotrowski, paragraphs [0008]-[0009]] node streams are formed [Piotrowski, paragraph [0022]] in each of which, with respect to one of a plurality of tree-structured documents to be presently transmitted, at least one of nodes or subtrees are arranged in a sequence on the basis of the node priorities related to the tree-structured document; [Piotrowski, paragraphs [0007]-[0008]] and the multiplexed stream is formed by multiplexing the node streams relating to the tree-structured documents to be presently transmitted, sequences in which at least one of the nodes or subtrees of the tree-structured documents are arranged being placed in the multiplexed stream according to ... set with respect to the tree-structured documents containing the nodes or subtrees, [Piotrowski, paragraphs [0007]-[0008]] said tree-structured document receiving apparatus having:

- receiving means of restoring the multiplexed stream from the signal received by the predetermined network protocol; [Piotrowski, paragraph [0015] with Piotrowski, paragraphs [0023]-[0025]]
- demultiplexing means of demultiplexing the multiplexed stream into the plurality of node streams contained in the multiplexed stream;
- ...document-by-document decoding means [Piotrowski, paragraphs [0015] with Piotrowski, paragraphs [0023]-[0025]]..., and each including extraction means

and reconstruction means, said extraction means extracting the at least one of the nodes or subtrees from said processing-assigned node stream according to the sequence of arrangement in the node stream, said reconstruction means adding the nodes or subtree in the extraction order to the tree-structured document under reconstruction; [Piotrowski, paragraph [0015] with Piotrowski, paragraphs [0023]-[0025]] and

- display means of displaying the tree-structured document under reconstruction in each document-by-document decoding means, the tree structure being displayed in the current reconstructed state at a corresponding position; [Piotrowski, paragraph [0025] with Piotrowski, paragraph [0009]]
- wherein, in the node stream, descendant substitute display information for substitute display on said display means for descendant nodes with respect to at least one of a node or a subtree existing as a parent of the descendant node is added immediately after at least one of the node or the subtree existing as a parent of the descendant node; [Piotrowski, paragraph [0017] with Piotrowski, paragraph [0018]]
- said extraction means in said document-by-document decoding means extracts at least one of the nodes or the subtrees and the descendant substitute display information from the node stream according to the sequence of arrangement in the node stream; [Piotrowski, paragraph [0017] with Piotrowski, paragraph [0018] with Piotrowski, paragraph [0015] with Piotrowski, paragraphs [0023]-[0025]]

- said reconstruction means in said document-by-document decoding means adds a substitute structure portion relating to the descendant substitute display information to the tree structure under reconstruction in place of the descendant node relating to the descendant substitute display information when said extraction means extracts the descendant substitute display information; and [Piotrowski, paragraph [0017] with Piotrowski, paragraph [0018] with Piotrowski, paragraph [0009]]
- wherein said display means displays said descendant substitute display information [Piotrowski, paragraph [0018] with Piotrowski, paragraph [0025]]...wherein said node priority is set such that the priority of nodes closer to a branching point in said tree structured document is higher than that of nodes more remote from said branching point" [Piotrowski, paragraph [0017] with Piotrowski, paragraphs [0008]-[0009], lower priority sub-trees missing].  
Piotrowski discloses the above limitations but does not expressly teach:
- "...multiplexed
- ...inter-document priorities
- ...demultiplexing means of demultiplexing the multiplexed stream into the plurality of node streams contained in the multiplexed stream;
- a plurality of ...each assigned processing of one node stream in the plurality of node streams demultiplexed by said demultiplexing means
- ...wherein said node priority is set based on a characteristic of the appearance of said node when displayed."

With respect to Claim 20, an analogous art, Gutle, teaches:

- "...multiplexed [Gutle, col. 2, lines 10-30]
- "...demultiplexing means of demultiplexing the multiplexed stream into the plurality of node streams contained in the multiplexed stream;" [Gutle, col. 2, lines 10-30].

With respect to Claim 20, an analogous art, Sumita, teaches:

- "...inter-document priorities" [Sumita, cols. 21-22, lines 65-6 with Piotrowski, paragraph [0019]].

With respect to Claim 20 case law teaches:

- "...a plurality of ...each assigned processing of one node stream in the plurality of node streams demultiplexed by said demultiplexing means" [*In re Harza*, 274 F.2d 669, 124 USPQ 378 (CCPA 1960)].

With respect to Claim 20, an analogous art, Dutta, teaches:

- "...wherein said node priority is set based on a characteristic of the appearance of said node when displayed" [Dutta, paragraph [0022]].

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Sumita, Gutle, and Dutta with Piotrowski because the inventions are directed towards storing and transmitting files.

Sumita, Gutle, and Dutta's inventions would have been expected to successfully work well with Piotrowski's invention because the inventions use storage areas and transmit files. Piotrowski discloses a method and apparatus for structured streaming of an XML document comprising storage devices, however Piotrowski does not expressly

disclose that the storage devices are tree-structured, presenting inter-document priorities, transferring using multiplexing/demultiplexing, nor wherein said node priority is set based on a characteristic of the appearance of said node when displayed. Sumita discloses a document detection system with improved document detection efficiency comprising displaying documents according to priority. Guttle discloses a method and apparatus for the distribution of multi-media documents comprising multiplexing and demultiplexing a stream of data. Dutta discloses the presentation of salient features in a page to a visually impaired user (title) comprising showing only part of a document prior to optionally showing the rest.

It would have been obvious to one of ordinary skill in the art at the time of invention to take the multiplexing/demultiplexing from Guttle, the presenting inter-document priorities from Sumita, and the presentation of salient features from Dutta and install them into the invention of Piotrowski, thereby offering the obvious advantage of sending multiple things through a stream of data (increasing the speed), displaying relevant documents first according to their priority, and obtaining an overview of the document (Dutta, paragraph [0022]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Piotrowski such that Piotrowski has a plurality of document-by-document encoding and decoding means each assigned processing of one tree-structured document in a plurality of tree-structured documents to be transmitted since it has been held that a duplication of parts with function (*In re Harza*, 274 F.2d 669, 124 USPQ 378 (CCPA 1960)) is obvious. In this case it is obvious

because it would increase the speed of the Piotrowski so Piotrowski's invention does more than one document at a time.

**Claim 22** can be mapped to Piotrowski (as modified by Sumita, Gutle, and Dutta) as follows: "The tree-structured document receiving apparatus according to claim 20, wherein said reconstruction means in said document-by-document decoding means immediately replaces the substitute tree-structured portion relating to the descendant substitute display information in the tree structure under reconstruction with the descendant node when said extraction means extracts the descendant node while substitute display for the descendant node according to the descendant substitute display information is being performed" [Piotrowski, paragraph [0009] with Piotrowski, paragraph [0025]].

**Claims 42 and 44** encompass substantially the same scope of the invention as that of Claims 20 and 22, respectfully, in addition to a method and some steps for performing the system means of Claims 20 and 22, respectfully. Therefore, Claims 42 and 44 are rejected for the same reasons as stated above with respect to Claims 20 and 22, respectfully.

17. Claim 45 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication No. 2003/0236903 (Piotrowski) in view of U.S. Patent Application Publication No. 2002/0143817 (Dutta et al.), further in view of U.S. Patent Application Publication No. 2001/0013046 (Katayama et al.).

For **Claim 45**, Piotrowski teaches: "A method comprising:

- transmitting a sequence of portions of a document, [Piotrowski, paragraph [0008] with Piotrowski, paragraph [0017]] said document including information defining document symbols and the locations of said document symbols on a page; [Piotrowski, paragraph [0017] with Piotrowski, paragraph [0022]]
- receiving a prioritized portion of said transmitted sequence of portions of said document [Piotrowski, paragraph [0008] with Piotrowski, paragraph [0025]]...wherein said node priority is set such that the priority of nodes closer to a branching point in said tree structured document is higher than that of nodes more remote from said branching point; [Piotrowski, paragraph [0017] with Piotrowski, paragraphs [0008]-[0009], lower priority sub-trees missing]
- displaying said received portions of said document" [Piotrowski, paragraph [0018] with Piotrowski, paragraph [0025] with Piotrowski, claim 8].

Piotrowski discloses the above limitations but does not expressly teach:

- "...wherein the priority of said prioritized portion is based on a characteristic of the appearance of said node when displayed;
- ...displaying substitute symbols in locations corresponding to portions of said document that have not been received."

With respect to Claim 45, an analogous art, Dutta, teaches:

- "...wherein the priority of said prioritized portion is based on a characteristic of the appearance of said node when displayed" [Dutta, paragraph [0022]].

With respect to Claim 45, an analogous art, Katayama, teaches:



- "...displaying substitute symbols in locations corresponding to portions of said document that have not been received" [Katayama, paragraph [0012]].

It would have been obvious to one of ordinary skill in the art at the time of invention having the teachings of Dutta, Katayama, and Piotrowski before him/her to combine Dutta and Katayama with Piotrowski because the inventions are directed towards data transmission.

Dutta and Katayama,'s inventions would have been expected to successfully work well with Piotrowski's invention because the inventions use computers with data files and portions of data files. Piotrowski discloses a method and apparatus for structured streaming of an XML document (title) comprising displaying an XML or parts of an XML document(s). However, Piotrowski does not expressly disclose wherein the priority of said prioritized portion is based on a characteristic of the appearance of said node when displayed nor displaying substitute symbols in locations corresponding to portions of said document that have not been received. Dutta discloses the presentation of salient features in a page to a visually impaired user (title) comprising showing only part of a document prior to optionally showing the rest. Katayama discloses a method and system of creating data for printing (title) comprising inserting dummy data (which must be symbols) for data not received.

It would have been obvious to one of ordinary skill in the art at the time of invention having the teachings of Dutta, Katayama and Piotrowski before him/her to take the presentation of salient features from Dutta and the symbols from portions of a document that have not been received from Katayama and install them into the

invention of Piotrowski, thereby offering the obvious advantage of obtaining an overview of the document (Dutta, paragraph [0022]) and knowing the number of unreceived data parts.

18. Claim 46 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication No. 2003/0236903 (Piotrowski) in view of U.S. Patent Application Publication No. 2002/0143817 (Dutta et al.), in view of U.S. Patent Application Publication No. 2001/0013046 (Katayama et al.), further in view of "Ellipsis" (Wikipedia).

For **Claim 46**, Piotrowski (as modified by Dutta and Katayama) teaches: "A method according to claim 45."

Piotrowski (as modified by Dutta and Katayama) discloses the above limitations but does not expressly teach: "...wherein said displaying comprises displaying a repeated character in said locations corresponding to portions of said document that have not been received."

With respect to Claim 46, an analogous art, Wikipedia, teaches: "...wherein said displaying comprises displaying a repeated character in said locations corresponding to portions of said document that have not been received" [Wikipedia, p.1].

It would have been obvious to one of ordinary skill in the art at the time of invention having the teachings of Wikipedia and Piotrowski (as modified by Dutta and Katayama) before him/her to combine Wikipedia with Piotrowski (as modified by Dutta and Katayama) because both inventions are directed towards text/data.

Wikipedia's invention would have been expected to successfully work well with Piotrowski (as modified by Dutta and Katayama)'s invention because both inventions use text/data with missing text/data. Piotrowski discloses a method and apparatus for structured streaming of an XML document (title) comprising displaying an XML or parts of an XML document(s). However, Piotrowski (as modified by Dutta and Katayama) does not expressly disclose displaying a repeated character in said locations corresponding to portions of said document that have not been received. Wikipedia discloses the use of an Ellipsis comprising using it to represent omission of text/data.

It would have been obvious to one of ordinary skill in the art at the time of invention having the teachings of Wikipedia and Piotrowski (as modified by Dutta and Katayama) before him/her to take the Ellipsis from Wikipedia and install it into the invention of Piotrowski (as modified by Dutta and Katayama), thereby offering the obvious advantage of showing to the viewer missing information in the locations of the missing information.

***Conclusion***

19. Any prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Applicant is advised that, although not used in the rejections above, prior art cited on any PTO-892 form and not relied upon is considered materially relevant to the applicant's claimed invention and/or portions of the claimed invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brent S. Stace whose telephone number is 571-272-8372 and fax number is 571-273-8372. The examiner can normally be reached on M-F 9am-5:30pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Apu M. Mofiz can be reached on 571-272-4080. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/BRENT STACE/  
Examiner, Art Unit 2161